# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**Applicant** 

Stephan WURSTHORN et al.

Based on

PCT/DE 03/02100

For

EXHAUST TREATMENT APPARATUS

Docket No.

R.304144

Customer No.

02119

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Date: April 13, 2005

## INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97(b), AND EXPLANATION OF THE RELEVANCE OF THE CITED PRIOR ART

Sir:

The undersigned hereby requests that the prior art cited on the attached prior art statement be placed of record in the application file and be considered by the examiner.

This citation of prior art is made under 37 CFR 1.97(b), since it is being filed within three months of the filing date and before the mailing of a first Office action.

The relevance of the prior art cited on the attached form 1449 is as follows:

Appl. No. Unknown Based on PCT/DE 03/02100 Prior to first Office Action

#### US 4,390,355

This patent teaches a diesel particulate trap comprising a ceramic monolith filter having inlet channels of decreasing cross-sectional flow area and increasing wall thickness relative to the distance from the inlet end to the outlet end of the filter.

### US 4,846,906

This patent teaches a porous ceramic article comprised of a porous ceramic body portion (of either predominantly open- or predominantly closed-cell porosity) having, integral with pre-selected surfaces thereof, a thin porous ceramic membrane layer which itself may be of open- or closed-celled porosity. Also described are methods of bringing about such membrane layers and such articles. The invention is particularly useful for providing porous ceramic filtering elements, such as diesel particulate traps, wherein the body portion has a predominant open-celled porosity and wherein the porous ceramic membrane surfaces also are open-celled porosity. The membrane surface pores are smaller than those of the body portion. The invention may also be useful in providing articles such as kiln furniture having smooth porous ceramic membrane layers or skins on pre-selected surfaces.

#### WO 00/01463 A1

This patent teaches a filter device for filtering soot particles from diesel engine exhaust gases comprising a casing and a shaped porous filter body. The filter body is preferably made of silicon carbide, SiC, such as a honeycomb structure wall flow filter body made from SiC particles. A membrane made from particles and/or fibers having a smaller pore size than the filter body is applied on the gas outlet side surfaces of the filter body. A

Appl. No. Unknown Based on PCT/DE 03/02100 Prior to first Office Action

catalytically active coating is applied on, and in the interior of, the filter body, for example, on a wash coating. The design of the filter body with the small pore size membrane applied to outlet surfaces allows soot particles to travel into the interior of the filter which has relatively large pores and where they are removed by decomposition by contact with the catalyst deposited in the filter body. Due to the small pore size of the membrane on the outlet side, the filter is able to remove very small soot particles, and due to the large active area where an oxidation catalyst and the trapped soot interact, the temperature at which the soot is decomposed is relatively low.

Examination of this application is respectfully requested.

Respectfully submitted,

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			U.S. PAT	ENT DOCUMENTS	David Columns Lines Where	
Examiner	Document Number  2		Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	
Initials	No.1	Number Kind Code	MM-DD-YYYY			
		US- 4,390,355	06-28-1983	Dean C. Hammond, Jr. et al.		
		US- 4,846,906	07-11-1989	Richard L. Helferich et al.		
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FOREIGN PATENT DOCUMENTS									
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not Considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at <a href="https://www.uspto.gov">www.uspto.gov</a> or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WiPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED TO THE ADDRESS SEND TO Compared to the Complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.